

Living with DIY IoT

Northumbria Ethics Reference: 9952

Principle Investigator: *David Verweij*



**Northumbria
University**
NEWCASTLE

My name is David Verweij. I am a researcher at Northumbria University in Newcastle. I hereby invite you to participate in a research study that looks at making and using Do-It-Yourself Internet connected objects. I would like to emphasize that you should only participate **if you want to**: not participating will not disadvantage you in any way, and will not harm the relationship between any of the people or institutions involved. Before you make your decision, you should understand the aim and structure of this research, and what this means for you. Please take enough time to carefully read the information below. Send me an e-mail if you have any question or remarks: david.verweij@northumbria.ac.uk.

What is the purpose of this study?

This study aims to explore the experience of making Internet connected family crafts using everyday materials.

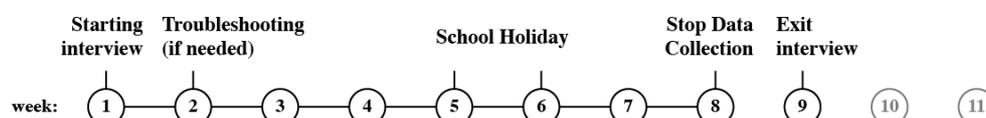
Do I have to take part?

No, there is no obligation to take part. Your participation is completely voluntarily. Please read this information sheet before making a decision whether to participate, and ask the researcher if you have any questions.

What will happen to me?

If you decide to take part in this study, we will provide you with one or multiple crafting kits, that allow you to assemble and build internet connected objects using everyday materials. At our first meeting, we will get acquainted, and go through the formalities, such as signing a consent form. Hereafter, we will ask you a number of questions (in other words, interview you), with the aim to gather some demographic information and openly discuss everyday routines and everyday uses of technology. We would like to ask you for a house tour to get an understanding of your everyday lives. You do not have to answer any question you do not want to, and may respond as elaborately as you feel comfortable.

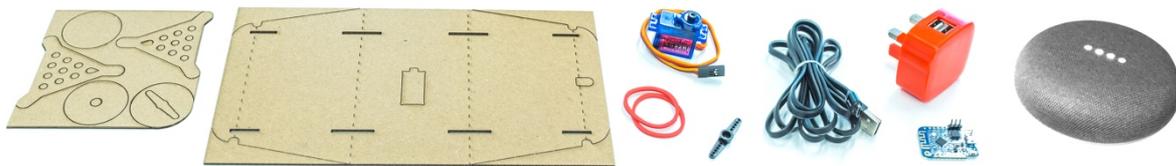
Then, we can freely discuss and talk about the crafting kit, its functionalities, components, and you can ask any question (even if you are just curious). We will leave the kits for you to use at home as you wish. The crafting kit should allow you to easily change your creations in form, decoration and functionality at any time you want! If needed, we will video-call you after a few days to assist in any trouble shooting. Then, we will visit you again after 9 weeks to ask you about your opinion and experience of using the kit. In the first 8 weeks, we will ask you to regularly send us a picture and a small description of the creations made with the crafting kit. We only ask you to do this whenever the functionality or shape of your creations change – somewhat similar to keeping a diary. During the first visit, we will agree upon how we do this, but this most likely will be through WhatsApp, E-mail or something similar. The lead researcher will use a temporary phone and phone number, to ensure privacy on both ends. These interviews and diary entries are of interest for the University's research to learn how you experienced using the kits and building your own creations. Below is an overview of the study setup.



If it happens that you are on holiday (away from home) for the duration of 1 or 2 weeks during the School Holiday, we would like to extend the research into week 10 and 11. This ensures we have a 9-week study for all families who participate.

What is the crafting kit?

The crafting kit consists out of a Wi-Fi/Internet enabled micro-computer and a mini-motor, and are provided with cardboard components, other building blocks (e.g. rubber bands) and one Google Home. See the picture below. Using the cardboard and everyday tools and materials (e.g. scissors, pencils, tape), you can build moving 'living' objects, that respond to public data available on the internet. The kit is accompanied by a Google Home, that allows you to program your creation's behaviour using text or speech.



What data are you measuring?

The kit is designed to store the data it uses and the instructions you give it to do, with the aim to collect its use, not to monitor you! It has no camera, microphone or alike, and it will (and cannot) record any data from its environment or network. This data is securely send to an encrypted online database hosted in the United States. This database is not accessible by anyone but the principle investigator. In addition, at the end of the study we will securely download the data to be securely stored on a hard drive, and delete the content from the online database. Each crafting kit (along with the provided Google Home) is connected to a temporary Google Account. As such, the lead researcher will be able to read any interactions with the Google Home (e.g. after saying 'OK Google'), a bit more detail about this is given in the instruction booklet. Using a temporary account will ensure your privacy, and allows us to delete everything after the study has taken place. The starting and exit interviews are audio recorded, which will be written out and anonymized in the process. The photos from your diary entries (i.e. your creations), along with their descriptions, will be stored for analysis, and only used publicly in an anonymized matter. In other words, the photos will be anonymized, or will simply not be used in reports or presentations if this is not possible. The collection of these data is of interest for our research to see how people are using the toolkits.

What will you do with my data?

The researcher will keep your contact details to be able to contact you, which will be password-securely stored and not accessible to anyone other than that researcher. All your other data (see previous paragraph) will be given a pseudonym, from which only the researcher will know who this belongs to. The interviews will be anonymised in the process of transcription, where after the audio recordings will be destroyed. You cannot be identified when we discuss the data, such as in a report or presentation. All data will be stored for at least three years after the study has ended, securely in accordance with the General Data Protection Regulation (GDPR) (2018), and will only be accessible to the involved researchers in this project for the purpose of analysis. If at any given time you wish access to the data, please contact the named researcher. Upon completion of the study we will, after we let you know, destroy any contact details. After the principle investigator has anonymized all the data, it will be shared with a select group of researchers to analyse the data. The data may be published in an appropriate journal/textbook or on an appropriate Northumbria University webpage, **which would automatically mean that the transcriptions or pictures would potentially be available worldwide.** Due to the anonymization, your names or other personal information will

never be associated with the transcription(s) or pictures. You have the right to withdraw consent at any time prior to anonymization, but once the transcription(s) and pictures are anonymized there may be no opportunity for the effective withdrawal of consent.

What are possible benefits and risks of taking part?

There are no direct benefits to you for your participation. However, at the end of the study we would like to offer your family one £25, - Amazon Voucher. There are no known disadvantages or risks other than the existing risks of everyday. You bare no responsibility for the crafting kits or any damage or defects that might occur.

What if I change my mind?

You can withdraw at any given moment during the study, without giving a reason, in which case your data will be deleted. A decision to withdraw at any time, or a decision to not take part, will not affect you in any way and will not harm the relationship between any of the people or institutions involved.

Who can I contact?

If you have any question regarding the study please contact me on david.verweij@northumbria.ac.uk. If this study has harmed you in any way, or you wish to make a complaint, please contact the Northumbria University Research Ethics Director for the Faculty of Engineering and Environment, Dr Kevin Glyn at kevin.glynn@northumbria.ac.uk. You can also contact the lead researcher's supervisor Prof. David Kirk at david.kirk@northumbria.ac.uk. At any given moment, you have the right to lodge a complaint with the Information Commissioner's Office (see <https://ico.org.uk/make-a-complaint/>). The data controller for this study is the Northumbria University, and its Data Protection Officer can be contacted at dp.officer@northumbria.ac.uk.